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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,443	06/25/2003	James N. Buttrick JR.	BO1 - 0034US	2939
60483	7590	03/27/2007		
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE. SUITE 500 SPOKANE, WA 99201			EXAMINER TALBOT, MICHAEL	
			ART UNIT 3722	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/606,443	BUTTRICK ET AL.	
	Examiner	Art Unit	
	Michael W. Talbot	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-9,11-18,20-22,24-33 and 35-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-42 is/are allowed.
- 6) ☒ Claim(s) 1-4,7-9,11-16,18,20-22,24-33,35-37 and 43-47 is/are rejected.
- 7) ☒ Claim(s) 5 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/13/06</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "first and second elongated flexible rails" recited in claims 13 and 26 in combination with the "biasing device" recited in claims 1 and 14, respectively, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make

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and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 13 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. As previously indicated in the Office Action dated 30 August 2006, the further limitations of the base recited in claims 13 and 26, specifically the "first and second elongated flexible rails", have not been shown in combination with the apparatus as recited in claims 1 and 14, respectively.

Claim Objections

5. Claims 1, 3 and 43 are objected to because of the following informalities:

Claim 1 recites the limitation "the manufacturing operation" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 3, line 1, the claim dependency phrase "of claim 2 1" should be changed so as to delete the number "1" and to read --of claim 2--.

Claim 43 recites the limitation "the manufacturing operation" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1,4,7-9,14,18,20-22,28,29,33,35,36 and 43-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim '133. Kim '133 shows in Figures 3,8a,8b,9,10a,10b and 11 an apparatus (J) for supporting a tool (26) comprising a base (4) having at least one elongated, flexible rail (4), a tool support (33,34,35) coupled to the base (via carriage assembly 22) and moveable along a translation axis (vertical direction), the tool support also being configured to be coupled to the tool (via shaft 32 shown in Fig. 11) wherein at least one of the base and the tool support is further configured to operatively position the tool relative to the work piece for performing a manufacturing operation (col. 5, line 55 through col. 6, line 7), and a biasing device (M,3h,R,15,16,17,27) having a first portion (R) coupled to the base (Fig. 3) and a second portion (15,16,17,M) coupled to the tool support and configured to apply a biasing force to the tool support (via motor M, undefined but must be either a constant torque or a non-constant torque motor) to at least partially counterbalance a force exerted on the tool support along the translation axis (col. 4, lines 49-57 and col. 6, lines 1-7). Kim '133 shows the tool support moveable in a first direction along the translational axis and a second direction along the translation axis opposite to the first direction (moveable back and forth along rails via carriage assemblies (22) and rollers (13,13',13'',31)). Kim '133 shows the biasing device including a pneumatic actuator (27). Kim '133 shows the biasing device being controllably biasable (via motor M) in a biasing direction along the translation axis (biasing direction and translation axis are both along vertical direction). Kim '133 shows the biasing device including a pressurizable cylinder (27) rigidly coupled

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to the base and the tool support adapted to at least partially counterbalance a force exerted on the tool support (col. 4, lines 49-57 and col. 6, lines 1-7).

It has been held that a recitation that an element is "configured to" perform a particular function is not a positive limitation and must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the above reference, the tool support (33,34,35) is capable of being coupled to the tool (26) via shaft (32) and other components, directly or indirectly, regardless of the specific construction/assembly and the first (R) and second portions (15,16,17,M) are capable of applying a biasing force (to overcome gravity) to the tool support.

8. Claims 1-4,7-9,11-16,18,20-22,24-33,35-37 and 43-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyl-Davis et al. '328.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Boyl-Davis et al. '328 shows in Figures 1-7 an apparatus (20) for supporting a tool (80) comprising a base (22,24,28,28') having two parallel, spaced apart flexible rails (38,58 and col. 4, line 39 through col. 5, line 4) attached to a work piece via vacuum cup assemblies (26), a tool support (70) coupled to the base (via carriage assemblies 30,50) and moveable along a translation axis (X-axis,Y-axis), the tool support also being configured to be coupled to the tool (via plate member 98) wherein at least one of the

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base and the tool support is further configured (via 92,94,96) to operatively position the tool relative to the work piece for performing a manufacturing operation (col. 6, lines 35-52), and a biasing device (40,60,70,92,94,96,100) having a first portion (non-referenced ring member located between 70 and 50 shown in Fig. 2) coupled to the base and a second portion (98) coupled to the tool support and configured to apply a biasing force to the tool support (via motors 40,60 in combination with pinion gears 44,66 and racks 38,58 to stabilize tool support during drilling thus counterbalance a force exerted on the tool support along the translation axes, motor undefined but must be either a constant torque or a non-constant torque motor) to at least partially counterbalance a force exerted on the tool support along the translation axis. Boyl-Davis et al. '328 shows the biasing device further configured via a control mechanism (inlet port 110) to adjustably control a magnitude and a direction (toward and away from work piece) of the biasing force (col. 7, lines 1-16). Boyl-Davis et al. '328 shows the tool support moveable in a first direction along the translational axis and a second direction along the translation axis opposite to the first direction (moveable back and forth along rails via carriage assemblies (30,50) and rollers (32,56) along guide rails (22,24)). Boyl-Davis et al. '328 shows the biasing device including a pneumatic actuator (92,100). Boyl-Davis et al. '328 shows the biasing device being controllably biasable (via motors 40,60) in a biasing direction along the translation axis (biasing direction and translation axis are both along X-axis and Y-axis). Boyl-Davis et al. '328 shows the translation axis (Y-axis) being at least partially transverse to the elongated rail member (which run in the X-axis). Boyl-Davis et al. '328 shows a carriage assembly (30,50) being moveably coupled to the guide rails (22,24) via rollers (32,56) and including a drive assembly (motors 40,60 in combination with pinion gears 44,66 and racks 38,58) for movement back and forth along rails. Boyl-Davis et al. '328 shows a manufacturing drilling tool (80) coupled to the

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tool support and adapted to engage the work piece surface to perform a manufacturing operation (col. 6, lines 24-53). Boyl-Davis et al. '328 shows the biasing device including a pressurizable cylinder (104,108) rigidly coupled to the base and the tool support (col. 6, line 60 through col. 7, line 16) adapted to at least partially counterbalance a force exerted on the tool support.

Allowable Subject Matter

9. Claims 5 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims further define the broadly written element of a "control mechanism being configured to adjustably control" as being a "control valve coupled to the pneumatic actuator".

10. Claims 38-42 are allowed (as previously indicated in the original Office Action dated 06 September 2005).

The following is a statement of reasons for the indication of allowable subject matter:

Claim 38 is the sole independent claim.

The Prior Art of Record fails to anticipate or make obvious, solely or in combination, the method steps in specific sequential order as presented by the Applicant, specifically the final three steps of (1) securely engaging the manufacturing tool with the surface of the work piece, (2) with the manufacturing tool securely engaged with the surface of the work piece, detaching the support member from the surface of the work piece, and (3) with the manufacturing tool securely engaged with the surface of the work piece, moving the support member relative to the manufacturing tool.

Response to Arguments

11. Examiner respectfully disagrees with Applicant's assertion that the drawings now show every feature of the invention specified in the claims 13 and 26. As pointed out by Examiner, both the "first and second elongated flexible rails" along with the "plurality of vacuum attachment devices" recited in claims 13 and 26 in combination with the "biasing device" recited in claims 1 and 14, respectively, must be shown or the feature(s) cancelled from the claims. Applicant's amendment removed the claim limitation of "a plurality of vacuum attachment devices" from claims 13 and 26 but did not address the claim limitation of the "first and second elongated flexible rails" in combination with the "biasing device" recited in claims 1 and 14, which is not shown by the submitted drawings.

12. Examiner respectfully disagrees with Applicant's assertion that Kim '133 does not show "a biasing device ... configured to apply a biasing force to the tool support to at least partially counterbalance a force exerted on the tool support". Kim '133 clearly shows a biasing device (M,3h,R,15,16,17,27) having a first portion (R) coupled to the base (Fig. 3) and a second portion (15,16,17,M) coupled to the tool support and configured to (just needs to be capable of) apply a biasing force (to overcome gravity) to the tool support (via motor M) to at least partially counterbalance a force (gravity) exerted on the tool support along the translation axis (col. 4, lines 49-57 and col. 6, lines 1-7).

13. Examiner respectfully disagrees with Applicant's assertion that Kim '133 does not show the pneumatic cylinder (27) being coupled to the guide roller (34), bearing (33) and bearing stopper (35). The coupling does not need to be a direct coupling. It can be coupled indirectly with additional components there between and still meet the claims as written.

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14. Examiner respectfully disagrees with Applicant's assertion that *Boyl-Davis et al. '328* does not show "a biasing device ... configured to apply a biasing force to the tool support to at least partially counterbalance a force exerted on the tool support". *Boyl-Davis et al. '328* clearly shows a biasing device (40,60,70,92,94,96,100) having a first portion (non-referenced ring member located between 70 and 50 shown in Fig. 2) coupled to the base and a second portion (98) coupled to the tool support and configured to (just needs to be capable of) apply a biasing force (to overcome gravity) to the tool support (via motors 40,60 in combination with pinion gears 44,66 and racks 38,58 to stabilize tool support during drilling thus counterbalance a force exerted on the tool support along the translation axes) to at least partially counterbalance a force exerted on the tool support along the translation axis.

15. Examiner respectfully disagrees with Applicant's assertion that *Boyl-Davis et al. '328* does not show "control mechanism coupled to the biasing device, the control mechanism being configured to adjustably control the magnitude and direction of the biasing force". *Boyl-Davis et al. '328* clearly shows the biasing device further configured via a control mechanism (broadly interpreted as inlet port 110) to adjustably control a magnitude and a direction (toward and away from work piece) of the biasing force (col. 7, lines 1-16).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MWT
Examiner
19 March 2007


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